

**CALL WAITING FEATURE FOR A TELEPHONE LINE  
CONNECTED TO THE INTERNET**ins  
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FIELD OF THE INVENTION

The invention relates to a call waiting feature for telephone calls and more particularly relates to a call waiting feature for a called telephone station set that is busy as a result of being connected to the Internet via an enhanced telephone central office system.

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BACKGROUND OF THE INVENTION

Call waiting is a telephone feature that is provided by a telephone switching office, e.g., a Central Office (CO), to alert a called party to an incoming call when that party's telephone station set is busy with another call. We have recognized that a telephone switching office cannot apply the call waiting feature to the telephone line that is connected to the well-known Internet. This limitation stems from the fact that the application of call waiting signals to the telephone line would interfere with the data connection. Also, when a data call is established between a subscriber's telephone line and the Internet via an Internet Access Service (IAS), the subscriber would not be able to hear the call waiting tone even if the data connection/communications were able to recover from the interference.

Disadvantageously, then, a telephone subscriber who subscribes to call waiting cannot be notified that a call is waiting when the subscriber's line is connected to the Internet.

In co-pending U.S. Application Serial No. 08/562,678, filed November 27, 1995, entitled "Call Notification Feature for a Telephone Line Connected to the Internet," which is incorporated herein by reference, we disclosed a method to overcome this disadvantage: by placing new functionality at the IAS and the called party's data terminal; by activating conventional call forwarding to route the subscriber's incoming calls to the IAS rather than giving busy signals; and by utilizing the new IAS and data terminal functionality first to notify the called party of the incoming call, and then, if requested by the called party, to connect that call to the called party. The connection between the incoming call and the called party was via the IAS and data terminal on the existing connection by converting